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(54) Title: **FLUORESCENCE-BASED DNA PRIMASE ASSAYS**

(57) Abstract: The present invention provides methods for assaying the activity of DNA primases and methods for screening for compounds that modulate the activity of DNA primases.

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INTERNATIONAL SEARCH REPORT

International Application No
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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12Q C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, EMBASE, MEDLINE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98/59044 A (TULARIK INC) 30 December 1998 (1998-12-30) the whole document page 7 - page 12 page 23 - page 25, line 8 page 27 - page 29	1-20
A	SWART J R ET AL: "PRIMER SYNTHESIS KINETICS BY ESCHERICHIA COLI PRIMASE ON SINGLE- STRANDED DNA TEMPLATES" BIOCHEMISTRY, AMERICAN CHEMICAL SOCIETY. EASTON, PA, US, vol. 34, 1995, pages 16097-16106, XP002911364 ISSN: 0006-2960 the whole document figure 2a	

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Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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Date of the actual completion of the International search

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INTERNATIONAL SEARCH REPORT

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C-(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>FRICK D N ET AL: "Interaction of bacteriophage T7 gene 4 primase with its template recognition site." THE JOURNAL OF BIOLOGICAL CHEMISTRY. 10 DEC 1999, vol. 274, no. 50, 10 December 1999 (1999-12-10), pages 35889-35898, XP002309417 ISSN: 0021-9258 the whole document</p>	
A	<p>WO 00/58270 A (BOEHRINGER INGELHEIM CA LTD; LIUZZI MICHELE (CA); SIMONEAU BRUNO (CA)) 5 October 2000 (2000-10-05) the whole document</p>	

INTERNATIONAL SEARCH REPORT

Information on patent family members

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PCT/US2004/016376

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 9859044	A	30-12-1998	US	6043038 A	28-03-2000
			AU	7986398 A	04-01-1999
			WO	9859044 A1	30-12-1998
WO 0058270	A	05-10-2000	AT	253552 T	15-11-2003
			AU	3412800 A	16-10-2000
			WO	0058270 A2	05-10-2000
			CA	2363690 A1	05-10-2000
			DE	60006368 T2	13-05-2004
			DK	1165494 T3	23-02-2004
			EP	1165494 A2	02-01-2002
			ES	2204538 T3	01-05-2004
			JP	2002540185 T	26-11-2002
			PT	1165494 T	31-03-2004
			US	6323202 B1	27-11-2001